

REMARKS

Applicants respectfully request reconsideration of this application, and reconsideration of the Office Action dated June 3, 2004. Upon entry of this Amendment, claims 5, 9, 12, 30, 31, 33-38, 40, 42-49, 51, and 52 will remain pending in this application. Previously withdrawn claims 10, 11, and 13-26, 28, and 29 as well as claims 32, 39, 41, and 50 are canceled by this Amendment. The amendments to the claims are fully supported by the specification and original claims. Specifically, the change to claim 36 finds support at inter alia page 11, paragraph [0037] and claims 42 and 45-48 are supported by at least page 5, paragraph [0017]. No new matter is incorporated by this Amendment.

Applicants gratefully acknowledge the Examiner's indication that claims 5, 9, 12, 34, 35, and 37 are allowed.

With respect to the Examiner's Comments on page 15 of the Office Action, Applicants submit that vectors containing DNA fragments are useful to perform methods of gene disruption or gene replacement as described on pages 12 and 13 of the specification. The vector pXK99EdeaD, for example, contains such a DNA fragment which corresponds to an incomplete gene.

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The objection to the specification was maintained. In response, Applicants have amended the specification as suggested by the Examiner.

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Claim 33 was objected to for being a substantial duplicate of claim 9. In response, claim 33 has been amended so that it depends from and further limits claim 9. Hence, the objection is overcome and its withdrawal is requested.

Claim 44 was also objected to for depending from a rejected base claims. Applicants have addressed each of the rejections pertaining to the claims from which claims 44 depends. Hence, the objection is overcome and its withdrawal is requested.

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Claims 36, 38-43 and 45-52 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants respectfully traverse.

The Office Action asserts that the “stringent conditions” have not been adequately defined in claim 36. In response, claim 36 has been amended to recite “washing in 0.5 x SSC at a temperature of 68°C.”

With respect to claims 40-43, and 45-48, 51, and 52, claims 40, 41, 45 and 47 have been amended as suggested by the Office Action.

In view of the above remarks, Applicants respectfully submit that this rejection has been overcome and request that it be withdrawn.

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Claim 49 was rejected under 35 U.S.C. § 112, first paragraph for purportedly failing to comply with the written description requirement. Specifically, the Office Action asserts the terminology “host cell” is not found in the specification. In response, claim 49 has been amended in a manner which overcomes this rejection. Hence, withdrawal of the rejection is respectfully requested.

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Claims 36, 38-43, and 45-52 and 37-50 were rejected under 35 U.S.C. § 112, first paragraph for purportedly failing to comply with the written description requirement. Applicants respectfully traverse.

As discussed above, claim 36 has been amended to recite “washing in 0.5 x SSC at a temperature of 68°C.” In addition, claims 38, 43, and 45 have been amended as suggested by the Examiner. Applicants submit that the specification adequately describes the subject matter of claims 40, 42, 45, and 47 by both structure (i.e. sequence) and function (i.e. encoding a polypeptide that has the enzymatic activity of a DNA/RNA helicase). Hence, the rejection is overcome and its withdrawal is requested.

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Claims 30-32, 36, 38, 41, 42, 49 and 50 were rejected under 35 U.S.C. § 112, first paragraph for purportedly not being fully enabled by the specification. Applicants respectfully traverse.

The Office Action asserts the specification does not provide enablement for polynucleotides having as little as 90% identity with SEQ ID NO: 2. However, Applicants submit that claim 30 recites “An isolated polynucleotide that is at least 90% identical to SEQ ID NO: 1 and encodes a polypeptide that has the enzymatic activity of a DNA/RNA helicase.” In other words, the claims concern polynucleotides that are at least 90% (95%) identical to SEQ ID NO: 1 and not SEQ ID NO: 2. Moreover, while SEQ ID NOs: 1 and 2 are not known in the prior art, the deaD protein in general (i.e. the deaD protein of other organisms) is known. This is evidenced by the following attached references:

- a) Linder et al. Birth of the DEAD Box;
- b) EMBL_EBI: Inter Pro DEAD.DEAH box helicase; and
- c) Swiss-Prot: P23304.

Given the general knowledge of those of ordinary skill in the art and the teachings of the specifications, those of ordinary skill in the art using simple screening techniques would be able to determine which isolated polynucleotides were at least 90% identical to SEQ ID NO: 1 and that also encode a polypeptide that has the enzymatic activity of a DNA/RNA helicase. Applicants point out that isolation of such a polynucleotide, determining its activity and then cloning the polynucleotide is within the level of skill in the art. Moreover, such screening techniques do not constitute undue experimentation. Hence, this rejection is overcome and its withdrawal is respectfully requested.

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Claims 39-48, 51, and 52 were rejected under 35 U.S.C. § 112, first paragraph for purportedly not being fully enabled by the specification. Applicants respectfully traverse.

The claims have been amended to refer to an isolated polynucleotide consisting of fragments of SEQ ID NO: 1 or fragments of the complete complement of SEQ ID NO: 1. Moreover, the specification fully describes how to make and use such fragments. Hence, the objection is overcome and its withdrawal is respectfully requested.

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Claims 32, 39, 41, 43, 45, 47, 49, 51; and 52 were rejected under 35 U.S.C. 102(a) as purportedly anticipated by Nakagawa et al. (EP 1108790).

Claims 32, 39, 41, 43, 45, 47, 49, 51, and 52 were rejected under 35 U.S.C. 102(e) as purportedly anticipated by Nakagawa et al. (U.S. Pat. Appln. No. 2002/0197605).

These two rejections are addressed together as similar issues apply to both. Moreover, Applicants respectfully traverse all three rejections.

The claims as amended are fully supported by the priority documents. Thus, since Applicants have filed a certified translation of the priority documents, each of the above cited documents are disqualified as prior art. Hence, withdrawal of each rejection is respectfully requested.

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Claims 39-43, 45-48 and 51 were rejected under 35 U.S.C. 102(e) as purportedly anticipated by Leach et al. (WO 01/90366). The Office Action asserts Leach describes a sequence having 22 consecutive nucleotides of SEQ ID NO: 1 and thus anticipates the claims. Applicants traverse this rejection.

The claims have been amended to recite “30 (40) consecutive nucleotides of SEQ ID NO:1” which is neither taught nor fairly described by Leach. Hence, this rejection is overcome and its withdrawal is respectfully requested.

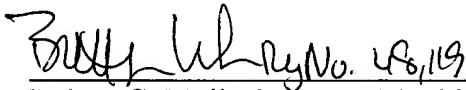
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Applicants respectfully submit that this Amendment and the above remarks obviate the outstanding objections and rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited. If any fees under 37 C.F.R. §§ 1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 032301.230.

If an extension of time under 37 C.F.R. § 1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The extension fee should be charged to Deposit Account No. 02-4300; Order No. 032301.230.

Respectfully submitted,

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